

TECHNICAL INFORMATION

AND

SERVICE DATA



RADIOLETTE

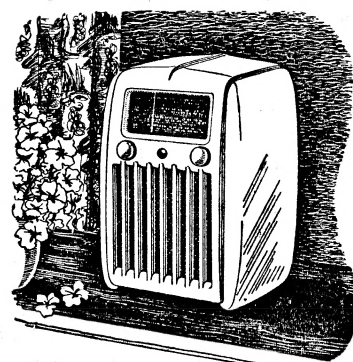
MODEL 520-M

FOUR VALVE, BROADCAST,

A.C. OPERATED SUPERHETERODYNE

ISSUED BY

AMALGAMATED WIRELESS (A/SIA) LTD.



ELECTRICAL SPECIFICATIONS.

FREQUENCY RANGE 540-1600 Kc/s
(555-187.5M)
INTERMEDIATE FREQUENCY 455 Kc/s
POWER SUPPLY RATING 200-260 volts,
50-60 C.P.S.
(Instruments available for other voltage and
frequency ratings)
POWER CONSUMPTION 35 watts
DIAL LAMP 6.3 volts, 0.25
amp. M.E.S.

VALVE COMPLEMENT:

- | | |
|-------------|--------------------------------------|
| (1) 6A8G | Converter |
| (2) 6G8G | I.F. Amplifier, 2nd Det., and A.V.C. |
| (3) 6V6GT/G | Output |
| (4) 5Y3GT | Rectifier |

UNDISTORTED POWER OUTPUT: 1 watt

LOUDSPEAKER (Permanent Magnet):
5 inch—Code No. AC36
Transformer—XA2

V.C. Impedance: 3 ohms at 400 C.P.S.

CONTROLS: Volume/Power—Left-hand knob
Tuning—Right-hand knob

MECHANICAL SPECIFICATIONS.

	Height	Width	Depth
Cabinet Dimensions (ins.)	10 $\frac{3}{4}$	7 $\frac{1}{2}$	5 $\frac{3}{4}$
Chassis Base Dimensions (ins.)	9 $\frac{1}{4}$	2 $\frac{1}{2}$	4 $\frac{1}{4}$
Carton Dimensions (ins.)	11 $\frac{1}{2}$	7 $\frac{3}{4}$	7 $\frac{3}{4}$
Weight (nett lbs.)	13		
Cabinet Colours	Ivory, Walnut and Burgundy		

GENERAL DESCRIPTION.

The Radiolette 520-M is a compact mantel receiver housed in an attractively designed two-piece plastic cabinet. The back is so designed to enable the receiver to be carried with ease. The cabinet is produced in three colours—Ivory,

Walnut and Burgundy.

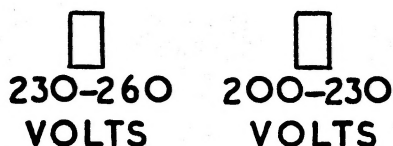
Features of this receiver include: Tropic-proof construction, automatic volume control, magnetite cores in I.F. transformers and oscillator coil, "Capacity to Mains" aerial.

CONNECTION TO POWER SUPPLY:

The receiver should not be connected to any circuit supplying other than alternating current from 200-260 volts and at the frequency stated on the label within the cabinet.

The power supply connections are shown in the accompanying diagram.

RED DOT INDICATES COMMON CONNECTION FOR ALL VOLTAGES.



SOCKET VOLTAGES.

Valves	Cathode to Chassis Volts	Screen Grid to Chassis Volts	Anode to Chassis Volts	Anode Current mA	Bias Volts	Heater Volts
6A8G Converter	0	100	210	3.5	—3	6.3
Oscillator	—	—	170	4.0	—	—
6G8G Det., I.F. Amp.	0	100	100	4.0	—3	6.3
6V6GT/G Output	0	100	200	14.0	—5	6.3
5Y3GT Rectifier	210		190 A.C.			5.0

Total H.T. Current—35 mA.

Measured at 240 volts A.C. supply. No signal input.

Volume Control maximum clockwise. Voltmeter 1000 ohms per volt; measurements taken on highest scale giving accurate readable deflection.

D.C. RESISTANCE OF WINDINGS.

Winding	D.C. Resistance in ohms
Aerial Coil:	
Primary (L2)	30
Secondary (L3)	4
Oscillator Coil:	
Primary (L4)	1.5
Secondary (L5)	6
I.F. Filter (L1)	17.5†
I.F. Transformer Windings	10
Loudspeaker Input Transformer (T1):	
Primary	
Secondary	525 or 430
Power Transformer (T2):	*
Primary	60
Secondary	350

*Less than 1 ohm.

†In some receivers this reading may be as high as 60 ohms.

The above readings were taken on a standard chassis, but substitution of materials during manufacture may cause variations and it should not be assumed that a component is faulty if a slightly different reading is obtained.

MECHANICAL REPLACEMENT PARTS.

Item	Part No.	Item	Part No.
Cabinet, body	23232	N.S.W.	23368
back	24202	Vic./Tas.	23370
Cable, power	15940	Qld.	23372
Clip, grid	7459	S.A./W.A.	23374
Dial, clip	24221	Knob	23266
Dial, plate assembly	24217	Screen, valve	24211
Dial, pointer assembly	24222	Socket, valve	4704
Dial, scale: Standard	23366	Terminal, spring	5458

ALIGNMENT PROCEDURE.

Manufacturer's Setting of Adjustments.

The receiver is tested by the manufacturer with precision instruments and all adjusting screws are sealed. Realignment should be necessary only when components in tuned circuits are repaired or replaced, or when it is found that the seals over the adjusting screws have been broken.

It is especially important that the adjustments should not be altered, unless in association with the correct testing instruments listed below.

Under no circumstances should the plates of the ganged tuning capacitor be bent, as the unit is accurately aligned during manufacture and cannot be readjusted unless by skilled operators using specialised equipment.

For all alignment operations, connect the "low" side of the signal generator to the receiver chassis, and keep the generator output as low as possible to avoid A.V.C. action. Also, keep the volume control in the maximum clockwise position.

Testing Instruments.

- (1) A.W.A. Junior Signal Generator, type 2R3911, or
- (2) A.W.A. Modulated Oscillator, type J6726.
If the modulated oscillator is used, connect a 0.25 megohm non-inductive resistor across the output terminals.
- (3) A.W.A. Output Meter, type 2M8832.

ALIGNMENT TABLE.

Order	Connect "high" side of Generator to:	Tune Generator to:	Tune Receiver to:	Adjust for maximum peak output
1*	6A8G†	455 Kc/s	540 Kc/s	L9 Core
2	6A8G†	455 Kc/s	540 Kc/s	L8 Core
3	6A8G†	455 Kc/s	540 Kc/s	L7 Core
4	6A8G†	455 Kc/s	540 Kc/s	L6 Core
Repeat the above adjustments until the maximum output is obtained.				
5	Aerial Terminal	600 Kc/s	600 Kc/s	L.F. Osc. Core Adj. (L5)‡
6	Aerial Terminal	1500 Kc/s	1500 Kc/s	H.F. Osc. Adj. (C7)
7	Aerial Terminal	1500 Kc/s	1500 Kc/s	H.F. Aer. Adj. (C3)

Repeat adjustments 5, 6 and 7.

*Before I.F. alignment is carried out, the capacity lead connected to the plate of the 6G8G must be bent up to minimise the coupling to the 1st I.F. Upon completion of I.F. alignment, move the capacity lead down again as far as possible without causing oscillation. At this point, no further adjustment of the I.F.'s must be made.

†With grid clip connected. An 0.001 uF capacitor should be connected in series with the "high" side of the test instrument.

‡Rock the tuning control back and forth through the signal.

CHASSIS REMOVAL.

- (1) Remove the control knobs by pulling them straight off their spindles.
- (2) Unscrew four screws on the back of the cabinet and remove the cabinet back.
- (3) The chassis is held in the cabinet by two screws. Removal of these enables the chassis to be withdrawn from the cabinet.

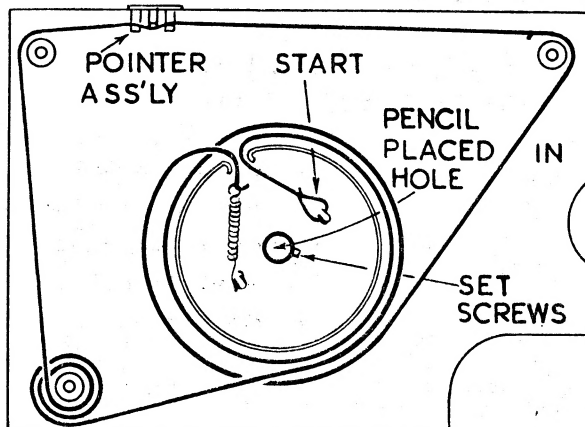
TUNING DRIVE CORD REPLACEMENT.

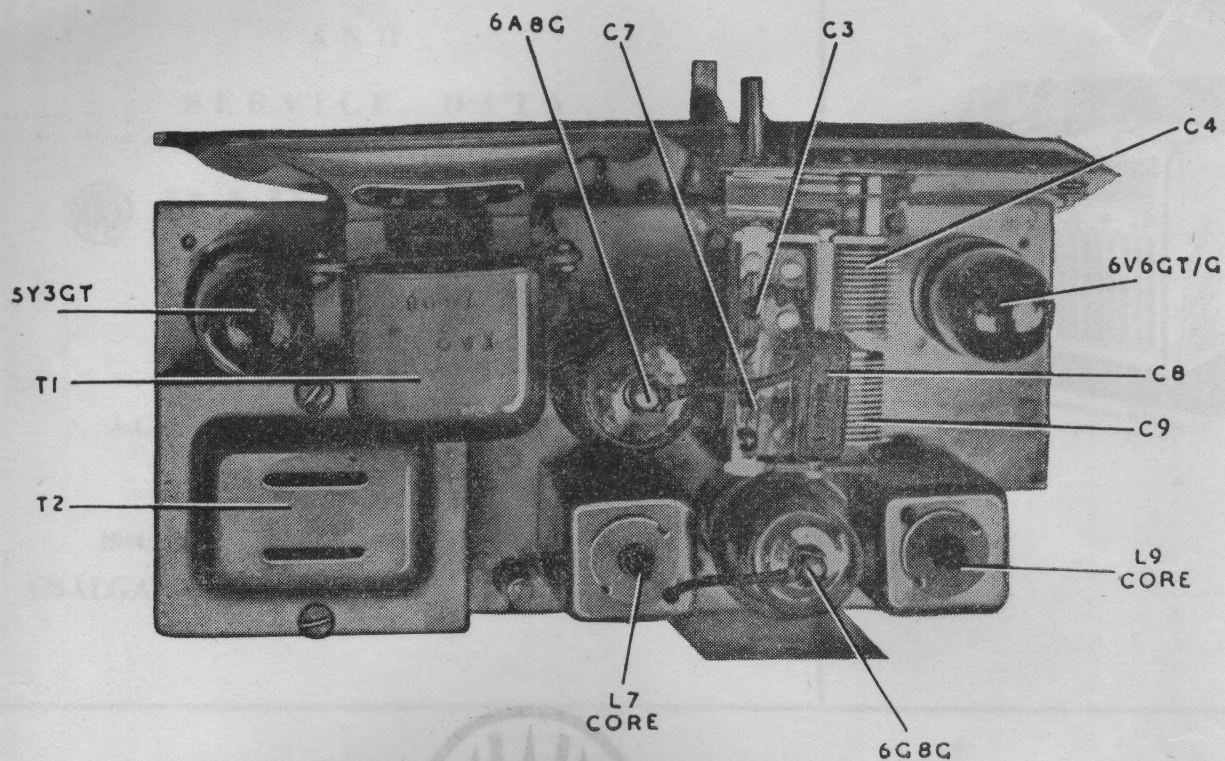
- (1) Remove the dial backing from the front plate.
- (2) Loosen the set-screws holding the drive drum to the gang spindle.
- (3) Remove the front plate by unscrewing two screws from the front of the plate.

Before the drive cord can be replaced, it is necessary to fasten to the drive drum some object similar to the drive spindle. A pencil will be found quite satisfactory.

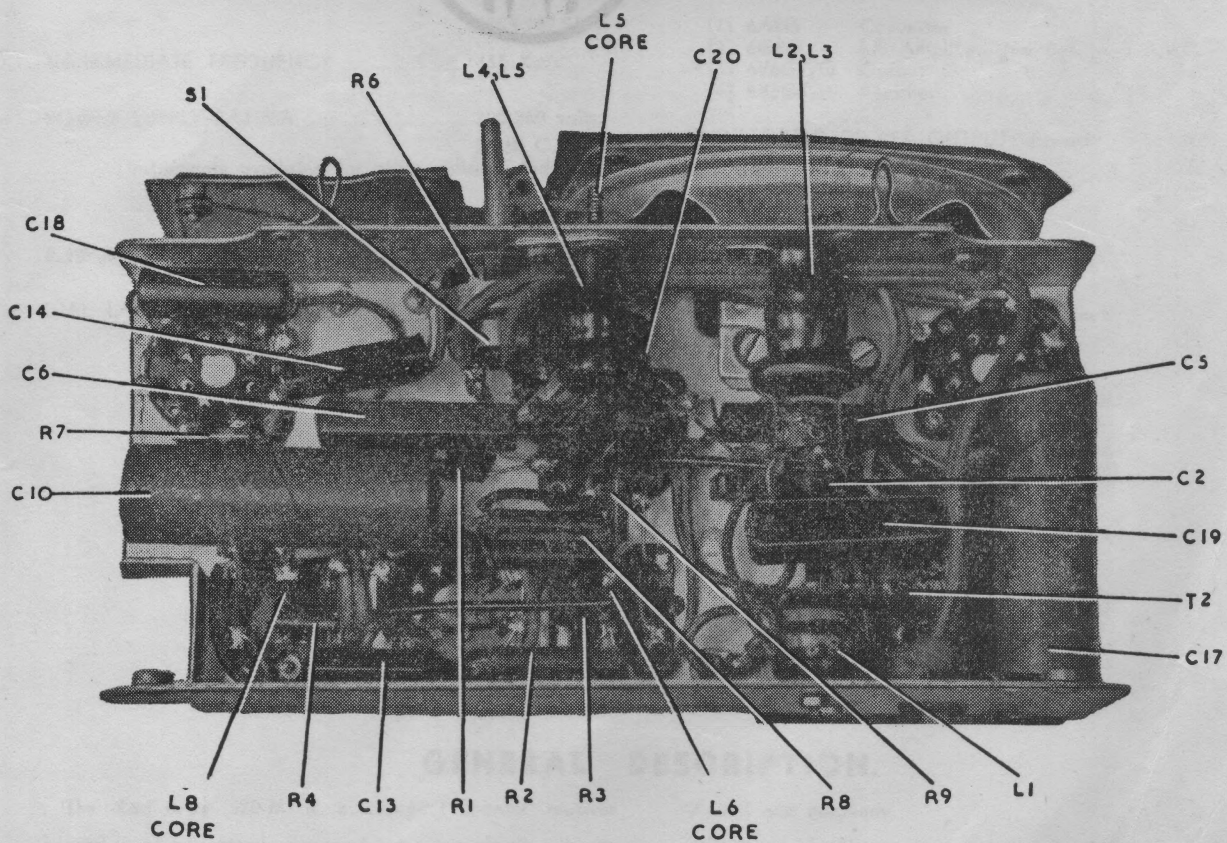
Now replace the drive cord as shown in the accompanying diagram.

To replace the front plate and drive drum, loosen the set-screws in the drum, and, using the pencil as a guide, push the front plate and drum into position. Now retighten the set-screws and replace the front plate screws.





CHASSIS, Top View, 520-M



CHASSIS, Bottom View 520-M